B.C. SEED CROP BULLETIN

BRITISH COLUMBIA / YUKON TERRITORY

Introduction

In British Columbia, about 110 000 ha of forest land is clearcut annually. The backlog of land deforested by logging, fire or insect, which has not been satisfactorily restocked, is almost 1 million ha. While natural regeneration is expected to occur on most of the denuded lands, 65.8 million seedlings were produced in the nurseries and outplanted in 1977. In 1976, 1106 kg of seeds were used in the nurseries. In 1977, the seed sown amounted to 1343 kg. Projections of seed needs show a rapid increase for the future. Moreover, direct seeding may play a much greater role in the future on areas where natural regeneration is presently relied upon.

Such a vast reforestation program, spread throughout the province, requires collection, processing, storage and sowing of hundreds of tree seed provenances, separated by species, zones and elevations. There is also a constant need to replace seed that has been used or has lost its viability. However, cone crops are infrequent and often fail because of adverse weather, insects or diseases. When crops do occur, cones must be collected usually within a 2- to 3-week period of their maturity. A successful collection depends on advance planning which, in turn, requires accurate and timely information on developing cone crops.

The CONE CROP BULLETIN for British Columbia and the Yukon Territory is intended not only to be a comprehensive record of past cone crops, but also to provide an outlook for the current year's crop as an aid to advance planning. As such, it should provide, in time, a base for studies of cone crop periodicity so that through understanding of the reproductive process, reasonably accurate and timely predictions of cone crops could be made.

The bulletin is produced jointly by the Canadian Forestry Service and the British Columbia Forest Service, in cooperation with the Yukon Lands and Forest Service and the forest industry.

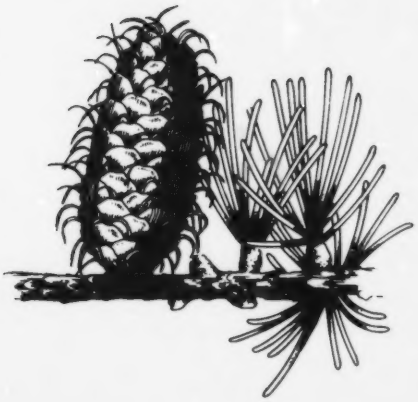
Mountain hemlock

Grand fir
(slightly reduced)

Explanation of Cone Crop Ratings

Cone crop ratings are based on visual subjective determination of cone crop abundance. The ratings are usually taken on trees along roadsides or other stand edges. Observations are made from the ground, although helicopters are occasionally used. The practice of rating trees with greater exposure to sunlight may tend to overestimate the cone crops. However, the crowns of these trees are more visible, permitting more accurate rating. It is also from these trees that cones are often collected and natural regeneration occurs.

Crop Rating	Criteria
1 - no crop	No cones on seed trees
2 - very light	Few cones on less than 25% of seed trees
3 - light	Few cones on more than 25% of seed trees
4 - medium	Many cones on 25-50% of seed trees
5 - heavy	Many cones on more than 50% of seed trees



Alpine larch

On the following pages are presented the 1977 cone crop ratings for natural stands divided by tree seed regions and, within region, by species, seed zone and elevation. Ratings for seed orchards are shown separately. A verbal summary follows the tabular data for each region. The limited information available for the Yukon Territory is presented in a single table by species and ecoregions because seed zones have not been delineated. The maps of B.C. Forest Service regions and zones and Yukon ecoregions are presented on the centre page.

In the tables, seed zone ratings are presented sequentially in rows. Ratings for species are shown in columns which are sub-divided by elevational bands coded as follows:

Code	Elevational Range
1	0-300 m (0-985 ft)
2	301-600 m (985-1970 ft)
3	601-900 m (1970-2955 ft)
4	901-1200 m (2955-3940 ft)
5	1201-1500 m (3940-4920 ft)
6	1501-1800 m (4920-5905 ft)
7	above 1800 m (above 5905 ft)

The tabular data are averages of all rating reports received for the indicated seed zone, species and elevation band. The number of brackets appearing above each rating indicates the number of reports on which the average is based.

Cone crop ratings are collected in June and July and are an indication of the relative abundance of cone crops only. An abundant cone crop does not necessarily mean a high seed yield. The quantity and quality of seed in the cones must be determined by sampling cone contents.

1977 CONE CROP RATINGS

WEST COAST REGION

	Douglas-fir		Western hemlock			Mountain hemlock		Western red cedar		Yellow cedar		Sitka spruce		Engel. Spruce	White Spruce		Lodgepole pine			White pine	Amabilis fir	
Elevation Code	2	3	1	2	3	4	5	1	2	3	4	1	2	4	2	3	2	3	4	1	3	4
Seed Zone																						
1020		(1) 2.0				(1) 3.0			(2) 2.0	(2) 2.0	(2) 2.5										(1) 2.0	(1) 2.0
1030			(32) 2.3	(8) 2.1				(8) 1.6	(2) 1.5			(12) 2.1	(1) 1.0									
1040	(4) 1.0	(3) 1.0	(3) 1.0	(2) 1.0				(3) 1.0	(3) 1.0	(1) 4.0	(1) 3.0										(3) 1.0	(2) 1.0
1050	(1) 1.0	(2) 1.0	(3) 1.0	(1) 1.0	(3) 1.0		(2) 3.0	(1) 1.0	(1) 1.0		(1) 3.0			(2) 2.0			(1) 2.0			(2) 3.5	(1) 1.0	(1) 1.0
1060	(1) 3.0	(1) 3.0												(1) 2.0				(1) 3.0	(1) 3.0			(1) 2.0
1070	(1) 1.0	(1) 1.0			(1) 1.0	(1) 1.0					(1) 1.0			(2) 1.0								(1) 1.0
1090	(2) 1.0	(1) 1.0	(3) 1.7	(2) 1.0	(2) 1.0			(2) 1.0	(2) 1.0			(2) 1.0	(2) 1.0									
1110			(1) 3.0	(1) 3.0				(1) 3.0				(1) 3.0	(1) 3.0									
1120			(1) 2.0					(1) 2.0				(1) 2.0										
1130			(13) 2.1	(1) 2.0				(10) 2.4				(7) 1.7			(1) 1.0	(1) 2.0						
1140			(1) 2.0					(1) 2.0				(1) 2.0			(6) 1.7	(1) 2.0	(2) 2.0	(1) 3.0				
1150			(1) 3.0	(2) 3.0	(1) 3.0																	

1977 CONE CROP RATINGS

WEST COAST REGION

Only a small number of reports were received, probably because 1977 was generally a poor crop year for all species. On Douglas-fir, a light crop was reported only from Sumalo River basin (seed zone 1060) from elevation of 850 to 1000 m a.s.l. The rest of the Region indicated "no crop" on Douglas-fir. Western hemlock had a light cone crop, with only an occasional medium crop reported from the north end of Vancouver Island (zone 1030), around Jeune Landing, Holberg, Port Hardy and in the Mahata River basin at elevations from sea level to about 600 m. A light cone crop on western hemlock was also reported along Talchako River (zone 1050) and throughout the Kitimat Valley (zone 1130) at elevations below 200 m. A light crop on western hemlock in higher elevations was found in Kitsengta Valley at 450 to 650 m and along Luno Creek at 600 to 900 m, both in seed zone 1050. On mountain hemlock, a light crop was noted at Mt. Cain (zone 1020) and at Centre Creek (zone 1050) both at elevations of 950 to 1200 m. Western red cedar produced a light, locally medium, cone crop at Sawell Inlet (zone 1110) and in Kitimat Valley (zone 1130), both at elevations below 300 m. Sitka spruce produced a light cone crop around Raft Mt., Ingersolt and in Kitimat Valley (all seed zone 1130) at elevations below 100 m. White spruce was reported to have a light cone crop at Luno Creek at altitudes of 600 to 900 m, and at Kitsengta Valley at altitudes of 450 to 600 m (both in zone 1150). Engelmann spruce was reported to have a light crop around Nesakwatch (zone 1050) at 900 to 1000 m. White pine had a light to medium crop at Maple Ridge (zone 1050) at altitudes of around 150 m. Lodgepole pine produced a light crop above Sumalo River basin (zone 1060) at 900 to 1000 m; in the seed zone 1150 in Kitsenga Valley at elevations of 450 to 600 m and at Luno Creek at elevations of 600 to 900 m. Yellow cedar was reported to have a light crop in the Centre Creek area (zone 1050) above 1000 m altitude and on Bouston Hill (zone 1040) at an altitude of around 900 m, and a medium crop above Granite Lake (zone 1040) at an altitude above 600 m.

No cone crop was reported on western hemlock in elevations above 1200 m, on western red cedar in elevations above 600 m, on Sitka spruce above 600 m and on Engelmann spruce above 1200 m. Grand fir and alpine fir had no crop at any elevation.

1977 CONE CROP RATING

SOUTHERN DRY REGION

Species	Douglas-fir				Western hemlock	Interior spruce			Lodgepole pine			Yellow pine		Larch	
Elevation Code	3	4	5	6	4	4	5	6	4	5	6	4	5	4	5
Seed Zone															
2010	(1) 3.0	(1) 4.0	(2) 1.5			(2) 3.0	(2) 1.5	(2) 1.0						(1) 2.0	(2) 1.5
2030								(1) 1.0							(1) 4.0
2040	(1) 1.0	(4) 1.0	(6) 1.5	(1) 2.0	(1) 2.0		(2) 1.0	(1) 2.0	(3) 2.3	(4) 3.3	(2) 4.0	(3) 1.7	(2) 2.0		
2060											(1) 2.0				

On Douglas-fir, a medium cone crop was reported from Trapping Creek (zone 2010) from elevations of 900 to 1100 m and a light crop from Cascade (zone 2010) from about 800 m and from Promontory Mtn. (zone 2040) from above 1300 m. Engelmann spruce produced a medium crop at Trapping Creek (zone 2010) between 900 and 1150 m a.s.l. Lodgepole pine produced a medium crop in zone 2040 at Monte Hills and Pratt Lake at elevations of 1350 to 1650 m, and a light crop at the same locations and at Blair Creek at 1000 to 1250 m. Yellow pine had a light crop at Promontory Mtn. at 1250 to 1500 m.

1977 CONE CROP RATING

INTERIOR WET REGION

SPECIES	Douglas-fir			Interior spruce				Western red cedar	Mountain hemlock	Alpine fir	Lodgepole pine			Yellow pine	Western larch			
Elevation Code	3	4	5	4	5	6	7	3	6	7	3	4	5	3	3	4	5	6
Seed Zone																		
3010	(6) 2.0	(3) 1.7	(1) 1.0		(6) 1.5	(5) 2.2	(2) 1.0	(1) 4.0	(1) 5.0		(1) 2.0			(1) 2.0	(4) 3.0	(4) 1.8	(2) 2.5	(1) 2.0
3020	(1) 2.0	(1) 2.0		(1) 3.0	(1) 1.0	(5) 2.0	(2) 3.0			(1) 3.0			(1) 2.0					
3030		(2) 2.0	(1) 3.0		(3) 2.0	(4) 2.3									(1) 2.0	(2) 1.5		
3040			(4) 1.5		(1) 1.0	(8) 1.4	(1) 1.0					(1) 2.0						
3050			(1) 2.0		(1) 2.0	(2) 1.0												
3060						(1) 3.0												
3070	(1) 2.0	(3) 2.0	(1) 2.0	(4) 2.0	(6) 2.2	(2) 2.0		(1) 1.0										
3090				(4) 1.3	(5) 1.3							(1) 3.0						
3100				(3) 1.0														
3110				(1) 2.0														

Douglas-fir produced a medium cone crop around Castlegar (zone 3010) at elevations of 700 to 900 m and a light crop at Feeny's Hat (zone 3010) at 600 to 700 m. In the zone 3020 at Monashee Summit, cone crop on Douglas fir was reported to be light at 1300 to 1400 m. Mountain hemlock produced a heavy cone crop at Ladybird (zone 3010) at 1500 to 1600 m altitude. Western red cedar cone crop was reported to be medium around Salmo (zone 3010) at altitudes of 600 to 700 m. Engelmann spruce produced a medium crop at Neptune Creek at 1200 m and at Castlegar and Creston at altitudes around 1600 m (all in zone 3010), and a light crop in zone 3020 at Goose Creek, Rossitier Creek, Crawford Creek and Fletcher Creek at altitudes between 1200 and 1800 m. A light crop was also reported at Bench Creek (zone 3030) and Columbia River (zone 3060) from elevations of 1250-1700 m. White pine produced a light crop in zone 3010 at Neptune Creek at about 1200 m and at Kid Creek at about 1400 m. In zone 3070, white pine crop was assessed medium at Tsar-Cummins at elevations of 850 to 1100 m. Lodgepole pine had a medium crop at 5-mile Lake (zone 3090) at elevations of 1050 to 1250 m. Western larch was reported to have a heavy cone crop at Castlegar at 750 to 950 m elevation, a medium crop at Lost Creek at 650 m and a light crop at Moberly Creek and Castlegar at 1200 to 1400 m.

No crop was reported on western hemlock and grand fir throughout the region, and on western red cedar above 900 m.

	Douglas-fir		Engel spruce	
Elevation code	4	5	5	6
Seed Zone				
4010	(2) 2.0			(1) 2.0
4020		(1) 2.0	(1) 2.0	(3) 1.3
4030			(1) 3.0	(4) 2.3

KOOTENAY DRY REGION

Very few reports were received for the Kootenay Dry Region. The cone crop on important coniferous species was apparently poor. A light cone crop on Engelmann spruce was reported in the Cross River area (zone 4030) at elevations of 1350 to 1850 m.

CENTRAL DRY REGION

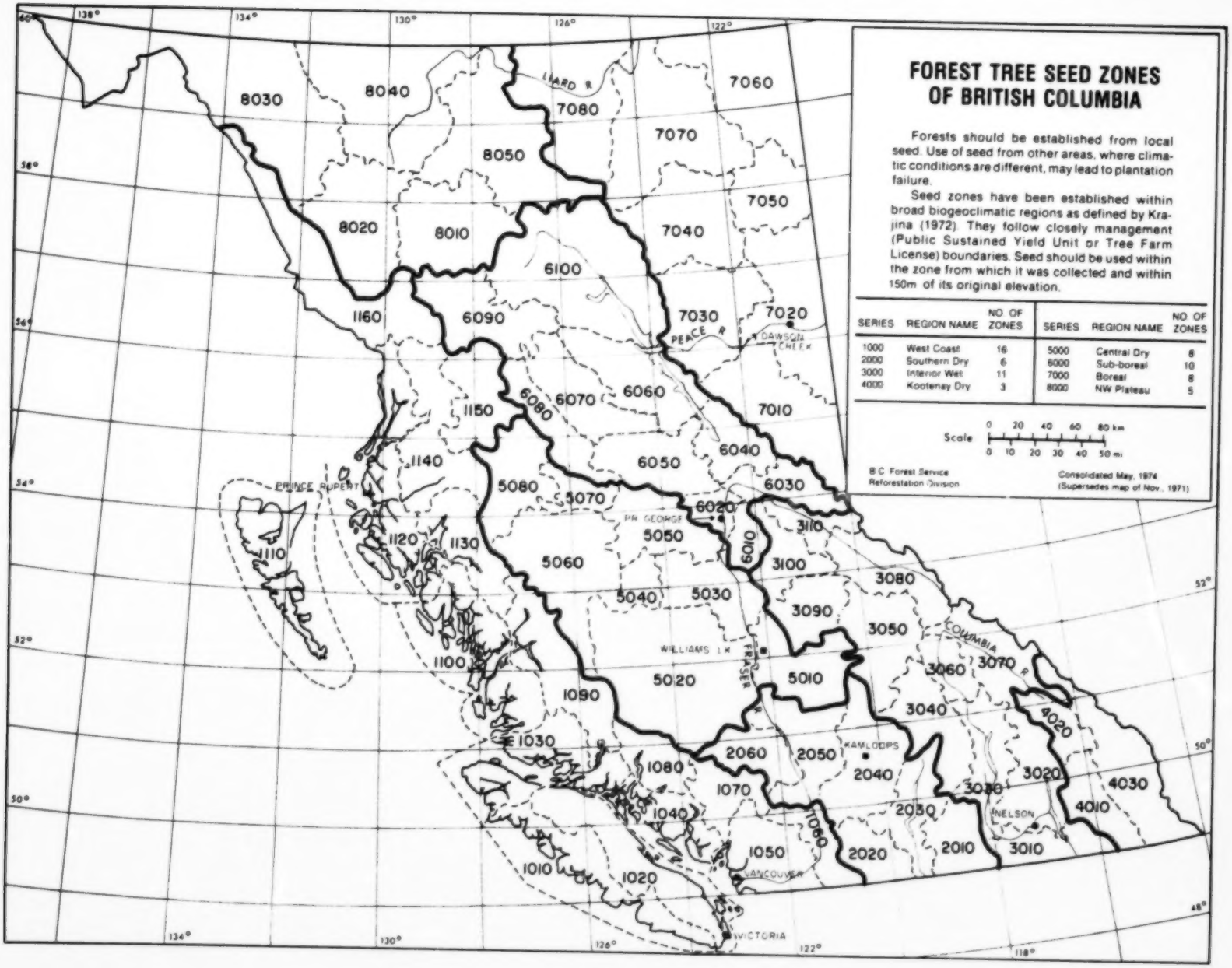
SPECIES	Douglas-fir		Western red cedar	White spruce			Alpine fir	Lodgepole pine		Western hemlock
Elevation Code	3	4	2	2	3	4	4	3	4	2
Seed Zone										
5010		(5) 1.6							(3) 1.7	
5020		(3) 1.3								
5030									(3) 2.6	
5050	(1) 2.0									
5060									(5) 4.0	
5070				(3) 1.7	(2) 1.5	(1) 1.0		(2) 2.0	(4) 1.8	
5080			(2) 2.0				(5) 1.0		(3) 2.0	(2) 2.0

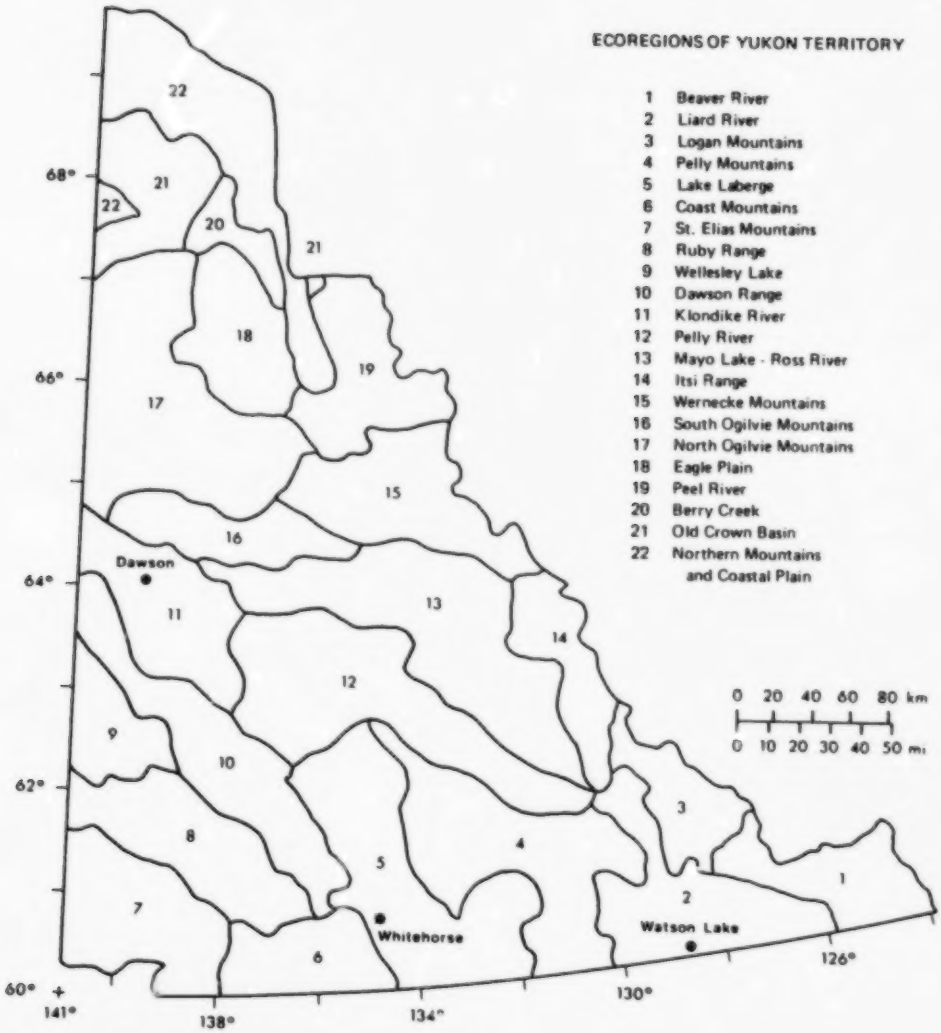
It appears that only Lodgepole pine produced cones in 1977. Medium cone crops were reported from Nazko Rd. Mile 42 (zone 5030) at 1100 m a.s.l. and at Andrew Bay and Southbank from elevations of 900 to 1100 m.

	White spruce	
Elevation Code	3	4
Seed Zone		
6010	(4) 1.0	(2) 1.0
6030	(1) 2.0	
6040	(3) 2.0	
6050	(6) 1.2	(2) 1.0
6070	(2) 1.5	
6080		(1) 2.0

SUB-BOREAL REGION

Only a few reports were received from Sub-Boreal Region. All indicated no crop or a very light cone crop.


FOREST TREE SEED ZONES OF BRITISH COLUMBIA
Forests should be established from local seed. Use of seed from other areas, where climatic conditions are different, may lead to plantation failure.
Seed zones have been established within broad biogeoclimatic regions as defined by Krajina (1972). They follow closely management (Public Sustained Yield Unit or Tree Farm License) boundaries. Seed should be used within the zone from which it was collected and within 150m of its original elevation.
SERIES | REGION NAME | NO. OF ZONES
1000 West Coast 16
2000 Southern Dry 6
3000 Interior Wet 11
4000 Kootenay Dry 3
5000 Central Dry 8
6000 Sub-boreal 10
7000 Boreal 8
8000 NW Plateau 5
Scale 0 20 40 60 80 km 0 10 20 30 40 50 mi
B.C. Forest Service Reforestation Division
Consolidated May, 1974 (Supersedes map of Nov., 1971)
8030 8040 8050 8020 8010 7060 7080 7070 7050 7040 6100 6090 7030 7020 1160 1150 6080 6070 6060 7010 6040 6050 6030 1140 5080 5070 6020 3110 1120 1130 1110 5050 6010 3100 5060 3080 5040 5030 3090 3050 3060 3070 1100 5020 5010 1090 3040 4020 1030 2060 2050 2040 1080 1070 3020 4030 4010 1040 2030 1060 1050 2020 2010 3010 1010 1020
LIARD R.
PEACE R.
DAWSON CREEK
PRINCE RUPERT
PR. GEORGE
WILLIAMS LK.
FRASER R.
COLUMBIA R.
KAMLOOPS
NELSON
VANCOUVER
VICTORIA
60° 58° 56° 54° 52° 50° 48°
138° 134° 130° 126° 122° 118°



Yukon Territory cone crop reports are based on the ecoregions shown above pending the establishment of forest tree seed zones.

BOREAL REGION

White spruce

Elevation Code	2	3	4
Seed Zone			
7010		(1) 2.0	
7020		(1) 2.0	
7030			(2) 1.0
7040	(1) 2.0	(2) 1.5	(1) 2.0
7080	(3) 1.3		

NORTHWEST PLATEAU

No reports were received for the Northwest Plateau.

The generally poor cone crop ratings were reflected in generally small and scattered cone collections. In many instances where Engelmann and white spruce crops were rated medium, seeds contained endosperm but not embryos. In other cases, seed maturation was so delayed that collection became uneconomical. Seed destroying insects were common in all species of Abies, as well as in the spruces. Yields of seed from such collections were significantly (30 to 50%) lower than in average years, indicating again that collections in poor years are not worthwhile.

Seed yields of Douglas-fir cones from seed orchards were also low (e.g. in 1977 0.116 Kg/ha of cones compared to 0.512 Kg in 1975).

B.C. SEED ORCHARDS

No.	Agency	Location	Establish Period	Area (ha)	Sp	Cone Crop Rating	No.	Agency	Location	Establish Period	Area (ha)	Sp	Cone Crop Rating
1	B.C.F.S.	Campbell R.	1963	6.6	F	2.5	11	Tahsis "C"	Saanich	1968-75	4.9	F	4.0
2	Tahsis "A"	Gold River	1962-69	2.2	F	2.0	12	Rayonier	Jordan River	1968	0.4	F	1.0
3	B.C.F.P.	Caycuse	1963-64	1.8	F	1.0	13	Rayonier	Pt. McNeill	1969	0.4	F	1.0
4	Crown Z.	Courtenay	1964-65	1.8	F	1.0	14	B.C.F.S.	Duncan	1970	4.5	F	2.0
5	Crown Z.	Nanaimo Lake	1964-65	1.8	F	1.0	15	B.C.F.S.	Campbell R.	1971	4.9	F	1.0
6	Rayonier	Gordon River	1964-65	4.1	F	1.0	16	C.F.P.	Sechelt	1971	8.2	F	1.0
7	Tahsis "B"	Gold River	1964-68	1.8	F	2.0	17	Tahsis	Gold River	1969-70	3.7	Hw	2.0
8	Tahsis Local	Gold River	1968-75	2.3	F	2.0	18	Tahsis	Saanich	1973	0.8	Ss	2.5
9	Pacific Log.	Saanich	1966	1.8	F	2.5	19	B.C.F.S.	Red Rock	1974	4.1	Pl	4.0
10	Pacific Log.	Saanich	1966	3.4	F	2.5							

YUKON TERRITORY

	White spruce			Black spruce
Elevation Code	2	3	4	2
(Ecoregion)				
Liard River		(6)	(1)	
		1.0	1.0	
Lake Laberge		(6)		
		3.3		
Coast Mtns.		(3)		
		2.0		
Ruby Range		(4)		
		3.3		
Wellesley Lake		(2)		
		2.5		
Dawson Range		(2)		
		4.0		
Klondike River		(2)		
		4.0		
Pelly River	(1)	(3)	(1)	(1)
	1.0	2.0	1.0	3.0
Mayo Lake-Ross Rv.	(1)	(1)		
	1.0	1.0		

Only spruce was reported from the Yukon Territory. Several localities checked in the Whitehorse area (Ecoregion 5) indicated a medium cone crop around 700 m. Haines Junction area and Mardial Creek in Ecoregion 8 had a light to medium cone crop at 700 to 850 m. Beaver Creek (Ecoregion 9) was reported to have a light crop at 700 m. Reports from Takhini River (Ecoregion 10) indicate a medium crop at 700 m; Klondike River (Ecoregion 1) had a light to medium crop at 450 to 500 m and Mayo area and Ross River (Ecoregion 12) produced a light crop at 550 to 730 m.

CONE CROP OUTLOOK FOR 1978

Predictions for the 1978 cone crop are based mainly on forcing of buds. The twigs, collected in January, were kept in a warm greenhouse and, when the buds opened, the ratios of reproductive to vegetative buds were calculated. From these ratios, the potential cone crop was assessed. The uniformity of sample collecting and reporting has not yet been established and the following summary required considerable interpretation. Predictions therefore must be regarded with caution. (Number of sample collections are shown in brackets.)

1978 CONE CROP FORECAST

WEST COAST REGION

SPECIES	Douglas-fir			Western hemlock			Red cedar			Sitka spruce			Interior spruce			Amabilis fir		
Elevation Code	3	4	5	1	2	3	1	2	3	1	2	3	3	4	5	1	2	3
Seed Zone																		
1020		(6) 3	(3) 3															
1070	(20) 3		(20) 4										(20) 4		(20) 4			
1120				(?)* 4			(?) 3			(?) 3						(?) 3	(?) 4	(?) 3
1130				(?) 4	(?) 3	(?) 4	(?) 3		(?) 3	(?) 4		(?) 4				(?) 4	(?) 4	
1140					(?) 4	(?) 4		(?) 4		(?) 4	(?) 4	(?) 4					(?) 4	(?) 4
1150						(2) 3			(?) 3		(?) 3	(?) 3		(?) 4	(?) 4			

* The number of samples was not given in the report from the field.

Douglas-fir may produce a collectable cone crop in zone 1020 at about 1400 m a.s.l. (Mt. Hall), and at about 1000 m (Half Creek), and in zone 1070 at 600 and above 1200 m (Pemberton). In zone 1120, a medium cone crop can be expected on hemlock and a light one on cedar at elevations below 100 m (Khyex River and Khutzeymateen Inlet). In zone 1140, Sitka spruce has a prospective medium crop at sea level (Greenvill and Old Remo). A medium crop on western hemlock, Sitka spruce, western red cedar and amabilis fir can be expected at 620 m (Clore River) and on Sitka spruce and western hemlock at 300 m and 750 m (Kiteen River), on western hemlock at 150 m (Record Lake) on cedar at 300 m (Cold Water Creek) and at 150 m (Cedar River Road), and on western hemlock and amabilis fir at 450 m. Western hemlock is expected to produce a light to medium crop at 730 m (Swanson Creek) and at 300 m (Legatee Creek). All species are expected to have a medium cone crop in zone 1130 below 100 m (Kildale Arm and Kitimat River) and around 1200 m (Onion Flats). Seed zone 1150 has a prospective light crop on Sitka spruce and red cedar at 450 m (Nash 'y'), on hemlock at 600 m (mile 10 highway 37), on Sitka spruce below 300 m (Cranberry River) and on Sitka spruce and hemlock at about 700 m (Aluk Creek).

SPECIES	Douglas-fir		Western larch		Interior spruce	
Elevation Code	4	5	4	5	4	5
Seed Zone						
2010	(3) 3	(2) 2	(2) 2	(2) 2	(1) 2	(1) 4

1978 CONE CROP FORECAST

SOUTHERN DRY REGION

Only a few reports were received from the Southern Dry Region and only from seed zone 2010. Prospects of a collectable cone crop appear to be good only on spruce at about 1500 m (Bonanza Creek). On Douglas-fir, a light crop can be expected at about 1300 m (Steep Creek and Nicholson Creek).

1978 CONE CROP FORECAST

SOUTHERN WET REGION

	Douglas-fir		Western larch		Interior spruce				Western hemlock	Alpine fir	Red cedar	
Elevation Code	4	5	4	5	3	4	5	6	4	5	5	6
Seed Zone												
3010			(1) 2	(1) 1			(1) 1	(3) 1	(1) 4			
3020	(3) 2.4	(1) 1.0		(1) 2			(1) 2			(1) 3		
3030								(1) 4			(1) 5	(1) 5
3060	(?) 2			(?) 2			(?) 2	(?) 1	(10) 4	(15) 2	(10) 4	(10) 4
3080						(8) 4						
3090					(1) 1	(16) 1.8	(10) 1.5					
3100					(1) 3	(7) 2.1	(14) 1.2	(1) 1				
3110						(3) 4	(1) 4					

In the Southern Wet Region, Douglas-fir may have a collectable cone crop in zone 3020 at elevations below 1000 m (Howser Ridge and Trout Lake). Western larch shows crop failure. A promising crop of spruce appears to exist in zone 3030 at 1500 m (Pinkston Creek), in zone 3080 at elevations from 1100 to 1400 m (Henry and Canoe Mt.) and in zone 3110 below 800 m (Humbug Creek). Good prospects of a medium crop on western hemlock was reported from zone 3010 at an elevation of over 1000 m (Porcupine Creek). Red cedar may have a heavy crop in zone 3030 at about 1500 m (Tangier River and Pinkston Creek). Mica Ranger District also reported good prospects for a medium crop on red cedar and western hemlock in zone 3060. (Elevation not stated.)

1978 CONE CROP FORECAST

KOOTENAY DRY REGION

SPECIES	Douglas-fir		Interior spruce
Elevation Code	4	5	4
Seed Zone			
4020		(?) 5	
4030	(?) 4		(?) 3

Only a few reports were received from Kootenay Dry Region. A medium cone crop on Douglas-fir is expected in zone 4030 at about 950 m (Linklater Creek) and a heavy crop in zone 4020 at about 1350 m (Parson). Spruce may have a light crop in zone 4020 at about 1300 m (Parson).

1978 CONE CROP FORECAST

CENTRAL DRY REGION

SPECIES	Douglas-fir		Interior spruce		
Elevation Code	3	4	4	5	6
Seed Zone					
5010				(3) 1	(1) 1
5030				(2) 1	
5040				(2) 2	
5050	(2) 2	(1) 1	(2) 2	(6) 1.5	(1) 4

Central Dry Region reported generally poor prospects for a spruce crop, with an exception of a potential medium crop above 1200 m (Chilako River) and a light crop from about 800 to 1100 m (Mt. McKenzie). However, we suspect that some samples were not collected from the top of the crown and the crop may be better than the sample indicated.

SPECIES	Interior spruce		
Elevation Code	3	4	5
Seed Zone			
6010		(3) 2.5	(3) 1.5
6030		(2) 4.5	
6040		(6) 2	(2) 1.5
6050	(2) 5	(4) 2.5	
6060		(1) 4	
6070	(2) 3	(6) 1.5	
6100	(2) 1.5	(6) 2	

1978 CONE CROP FORECAST

SUB-BOREAL REGION

Only spruce was assessed in the Sub-boreal Region. In seed zone 6010, a medium crop can be expected at about 800 m (Willow River) and at about 1100 m (Sandeneer Creek). Zone 6030 has a potential heavy crop at around 800 m (McGregor and Severed Creek) and zone 6040 a medium crop at about 700 m (Davie Lake and Parsnip River). Indications are that zone 6050 will have a heavy cone crop at about 700 to 800 m (Muskeg River and Salmon River) and a medium crop at 850 m (Merton Lake). Zone 6060 may have a medium crop at 1100 m (Manson River). In zone 6070, a medium cone crop is expected at 950 m (Takafoot Lake) and at 800 m (Sakeniche River), while a light crop is expected at 1100 m (Chuchi Lake), and at 900 m (Lowell Cove). Zone 6100 may have a light crop from 750 to 900 m (Raspberry Harbour, Chunamon Harbour and Mesilinka River).

1978 CONE CROP FORECAST

BOREAL REGION

SPECIES	Interior spruce			
Elevation Code	2	3	4	5
Seed Zone				
7010			(6) 2.4	(2) 2.5
7030		(1) 1	(2) 2	
7070	(8) 3.5			

In zone 7010, a medium crop can be expected at 1050 m (north of Meikle) and a light crop at about 1250 m (Hasler Creek). In zone 7070, river bottoms stands indicate a medium crop at 300 to 400 m (Tsoo Creek and Prophet River), whereas upland sites may have a medium to heavy crop at 450 to 500 m (Tsimen Lakes and Prophet River).

1978 CONE CROP FORECAST

YUKON TERRITORY

A light Cone crop on white spruce can be expected to occur only at elevations of 600 to 700 m in Ecoregion 12 (Willow Creek and Pelly Crossing) and in Ecoregion II (March Lake and Dawson). Ecoregion II has a prospect of a very light crop in the North Klondike River area and Ecoregion 5 in the Wolf Creek and Whitehorse areas. No crop is expected in Ecoregion 5 at the Taka Arm and McClintock River areas, and in Ecoregion 2 in the Laird River and Watson Lake areas.

Readers' comments should be addressed to . . . .

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